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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,829	01/26/2001	Steven V. Kauffman	STL000046US1	2858

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EXAMINER

ALAM, SHAHID AL

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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8

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Commissioner for Patents

Shahid Al Alam
Primary Examiner
Art Unit: 2172

Office Action Summary

Application No.

09/774,829

Applicant(s)

KAUFFMAN, STEVEN V.

Examiner

Shahid Al Alam

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 18 August 2003 have been fully considered but they are not persuasive for the following reasons.
2. Applicant argue that Shah and Sheth do not describe or suggests generating a search engine based on the system description.

Examiner respectfully disagrees all of the allegations as argued. Examiner, in his previous office action, gave detail explanation of claimed limitation and pointed out exact locations in the cited prior art.

In the specification on pages 14 and 15, Applicant teaches that the code generator generates a program to locate data in the database, such as a search engine. The search engine program may execute queries against the custom database using search engines executed in Java, HTML or other high level languages.

Examiner maintains that Shah's teachings of system description as metadata information . . . mappings/extractors . . . as in page 267 and Web crawlers and search engines . . ., use of HTML and XML as in page 270 clearly teaches search engine that uses higher level of language. Sheth's teaching of an extractor program takes HTML pages and extraction rules as input and generates XML assets such as that shown in FIG. 6. These generated assets contain values for each attribute name belonging to the domain of that Web site. Once created, the assets are sent to a Metabase Agent that is in charge of enhancing and inserting them into a database of records. In order to enhance the assets, the Metabase Agent uses information stored in the WorldModel as

well as a Knowledgebase. The Knowledgebase is a collection of tables containing domain-specific information and relationships. After insertion into the metabase, the assets are then ready to be searched. The purpose of a WebCrawler is to read in the content of "extractable" Web pages from a site and pass this content on to the Extractors. A WebCrawler 3 is a piece of software, invoked on a remote or local host, which begins reading pages from a particular site and determines which of these pages are extractable. When a Web Crawler is invoked 2, it is given a list of "crawling rules" 4 specific to a single Web site. These rules dictate where (on which page) the crawler should begin its search, which directories the crawler must remain within, and define the characteristics of an extractable page. Without such rules, a WebCrawler would likely find a link off of the site it was assigned to crawl and begin aimlessly reading the entire Web.

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification.

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Art Unit: 2172

Reference is made to MPEP 2144.01 - Implicit Disclosure

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)

Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference (s) applied and cited. It is logical for the examiner to focus on the limitations that are "crux of the invention" and not involve a lot of energy and time for the things that are not central to the invention, but peripheral. The examiner is aware of the duties to address each and every element of claims, however, it is also important that a person prosecuting a patent application before the Office or an stakeholders of patent granting process make effort to understand the level of one of ordinary skill in the (data processing) art or the level one of skilled in the (data processing) art, as encompassed by the applied and cited references. The administrative convenience derived from such a cooperation between the attorneys and examiners benefits the Office as well the patentee.

In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Office Action.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the publication, "Logical Information Modeling of Web-Accessible Heterogeneous Digital Assets," Shah et al., Proceedings of the 1998 IEEE International Conference on research and Technology Advances in Digital Libraries, April, 1998, USA, pages 266-275, hereinafter "Shah" in view of U. S. Patent No. 6,311,194 issued to Sheth et al., hereinafter "Sheth".

With respect to claim 1, Shah teaches a method of creating a database (page 268; Fig. 1, col. 1, par. 3; "Metabase" that stores persistent RDF or Resource Description Framework objects is a database) in a data store connected to a computer, the method comprising:

receiving a system description (Page 268; Fig. 1, "Encapsulator" receives the web information artifacts, processes and models the artifacts into RDF objects; see col. 1, 2nd par., RDF objects are system descriptions) of a structure of the database to be created;

generating the structure (Fig. 2 and Fig. 3; MREF, as described in page 270, col. 1, par. 1, and in col. 2, par. 3, is considered the structure as claimed) for the database based on the system description; and

generating system descriptions, wherein the descriptions are stored and located (the Metabase provides a level of abstraction for searching the Web; page 270, col. 1, Par. 3-5; in par. 3: "...search engines try to impose some sort of an order by building indices on top of the web artifacts ...").

In Shah, the RDF objects are used to present information at a higher semantic level in conjunction with known standards such as XML. MREF layer that sits on top of the RDF layer (see page 270, col. 2, Fig. 3) enhances the abstraction of information in terms of location and media independence. Shah does not explicitly indicate that the Metabase is a "custom database" and also in the step of "generating a search engine based on the system description, wherein the search engine stores and locates data in the custom database" does not explicitly indicate that the data stored in the metabase is being utilized for "generating a search engine" as claimed.

Shah, in page 270, col. 1, par. 3, discusses the role of a Web crawler and/or a search engine to utilize an index that should be built on top of the web artifacts. To facilitate searching of information artifacts that are coming from a plurality of heterogeneous sources, Shah suggests a location-independent, media-independent and content-dependent method of correlating resources (page 270, col. 1). Then Shah teaches MREF that can be stored in and supplied by a separate and dynamically constructed metadata directory (page 272, col. 2, par. 1 and 2).

Therefore, as to the step of "generating a search engine based on the system description, wherein the search engine stores and locates data in the custom database", Shah does not explicitly indicate that the metabase is a custom database.

Sheth teaches a similar metabase (see abstract, col. 4, lines 55) in conjunction with a WorldModel (col. 4, lines 64-67) that provides the customization (col. 8, lines 57-58) sought by the claimed invention.

Sheth discloses the extraction of XML assets from and send the assets to a Metabase Agent. Sheth's extraction of XML assets is similar to the generation of MREF objects in Shah (see Sheth Fig. 6, col. 10, lines 43-55).

With respect to claim 1, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Shah and Sheth because : (i) both Shah and Sheth are analogous art and have a common author, Sheth; (ii) the combination Shah and Sheth would have facilitated a better semantics between various heterogeneous information sources of the Web (col. 4, lines 46; Sheth), and (iii) the combination would have improved the scalability of a system that deals with heterogeneous information sources (col. 4, lines 33-44; Sheth). In other words, both Shah and Sheth teach the extraction of information from heterogeneous resources, however, the incorporation of Sheth in Shah would have facilitated the formation of a custom database because Sheth is explicit about the necessity of customizing the extracted information according to users' needs (see Sheth, col. 8, lines 56-58).

As to claim 2 (the method of claim 1, further comprising generating a user interface to access the custom database), Shah teaches the generation of user interface (page 270, col. 2, 3rd par. "MREF template"; page 272, col. 2, par. 1).

As to claim 3 (the method of claim 1, further comprising modifying the system description and generating a new structure and search engine that are transparent), Shah generates a search engine that is transparent because Shah teaches the independence of locations and media (page 270, col. 1, par. 5).

As to claim 4 (the method of claim 1, wherein the system description defines a mapping of one or more abstract objects to a physical representation in the structure of the custom database), Shah teaches mapping (page 270, col. 2, 3rd par.).

As to claim 5 (the method of claim 1, wherein the structure stores data to form a relational database) Shah teaches relational databases (page 267, col. 2, par. 3).

As to claim 6 (the method of claim 1, wherein the system description comprises a markup language file), Shah teaches the use of XML (page 270, col. 2, par. 2).

As to claim 7 (the method of claim 6, wherein the markup language file comprises an extensible markup language (XML) document, see Shah, page 270, col. 2, par. 2).

✓ As to claim 8 (the method of claim 7, wherein the XML document is created using a text editor), Sheth teaches a means that is equivalent to a text editor in Fig. 7-9, and in col. 11, line 57 through col. 12, lines 9; "ability to modify extracted text (append, prepend, replace))".

As to claim 9 (the method of claim 7, wherein the XML file is created using a graphical user interface), Fig. 6-9 in Sheth and page 271-272 of Shah show XML files.

As to claim 10 (the method of claim 1, wherein the search engine locates data within the custom database.

As to claim 11 (the method of claim 1, wherein the search engine comprises a text search engine), Shah teaches a search engine that implements keyword search (page 270, col. 1, par. 3).

✓ As to claim 12 (the method of claim 1, wherein the search engine comprises a high level language) and claim 13 (the method of claim 12, wherein the high level language comprises Java), Sheth teaches that the software components such as Metabase Agent, Extractor, Web crawler may be implemented utilizing JAVA programming language (Sheth, col. 17, lines 23-25).

Each of the limitations recited in claims 14-39 have been addressed in details in the rejection of claim 1-13. Claims 14-26 are essentially the same as claims 1-13 except that they set forth the claimed invention as an apparatus rather than a method. Claim 14 is directed to a computer that is capable of executing a program that, when executed, performs the steps of claim 1. Software can be loaded in a general-purpose computer to program it and to turn it into a specific machine. Once the software is loaded and the program is executed, the computer is capable of performing the steps of a method as per program instructions. Claims 14-26 are therefore rejected for the same reasons as applied to claim 1-13 above.

Claims 27-39 are essentially the same as claims 1-13 or 14-26 except that they set forth the claimed invention as a computer program product rather than a method or apparatus. Claim 27 is directed to an article of manufacture or a computer program product that can be loaded in a in a general-purpose computer to program it and to turn it into a specific machine. Once the software is loaded and the program is executed, the computer is capable of performing the steps of a method as per program instructions. Claims 27-39 are therefore rejected for the same reasons as applied to claim 1-13 above.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid Al Alam whose telephone number is (703) 305-2358. The examiner can normally be reached on Monday-Thursday 8:00 A.M. - 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Shahid Al Alam
Primary Examiner
Art Unit 2172

2 November 2003